REMARKS

Claims 1-7, 28-30, 37, 40-43, and 45-76 were pending in the application.

Claims 1-7, 28-30, 37, 40-43, and 45-76 were rejected.

Claims 7, 68, 69, 70, 71, 73, and 74 have been canceled, without prejudice or disclaimer.

Claims 1, 45, and 46 have been amended.

Reconsideration and allowance of claims 1-6, 28-30, 37, 40-43, 45-67, 72, and 75-76 is respectfully requested in view of the following.

The Information Disclosure Statements:

The examiner has not yet considered the Information Disclosure Statements filed on September 11, 2003 and February 17, 2004. The Applicant respectfully requests that the examiner consider each of the above filed Information Disclosure Statements.

The Rejection of Claims 1-6, 28-30, 37, 40-43, 45-67, 72, and 75-76 Under 35 U.S.C. § 112, ¶1:

Claims 1-6, 28-30, 37, 40-43, 45-67, 72, and 75-76 were rejected under 35 U.S.C. § 112, ¶1. Applicants respectfully traverse.

The Examiner alleges that evidence of concealment of the best mode is found in the applicant's prior remarks comparing Evans (US 6,409,175) with the claimed invention.

As detailed below, Evans simply does not disclose or suggest the claimed invention. In particular, Evans discloses that "... following the expansion of the pin and box, the pin and box members radially separate, causing the [thread compound] seal to fail." *Evans* at column 1, lines 50-55. And, contrary to the Examiner's assertions, among other things, Evans does not disclose or suggest the use of a sealing compound that is: **Jet-Lock III High Friction Thread Compound available from Jet-Lube, Inc.** – as disclosed in the present application at page 7, lines 20-23, or, for that matter, any other specific sealing compound. Thus, Evans never considered, tested, or otherwise used the specific sealing compounds described in the present application that provide optimal results. In other words, Evans never discovered that thread sealing compounds

can provide a seal in the threaded connection during and after a radial expansion of the threaded connection. In fact, quite to the contrary, Evans makes a blanket statement that sealing compounds cannot effect a seal during and after a radial expansion of a threaded connection. Furthermore, Evans clearly does not disclose or suggest the test results for any specific thread compounds during a radial expansion process. Thus, the examiner's assertions that the claimed invention and exemplary embodiments disclosed in the present application are identical to Evans is simply without merit or support in the record.

Thus, Evans does not disclose or suggest the claimed invention.

The fact that the Applicant's claimed invention is not disclosed or suggested in Evans is not evidence of anything other than the fact that Evans does not disclose or suggest the claimed invention.

In addition, the present application, as originally filed, disclosed the following best mode of the invention (See Original Application at pages 5 to 12 and the corresponding Figures):

> In Fig. 1, a preferred embodiment of a method 100 for forming and/or repairing a wellbore casing, pipeline, or structural support includes the steps of: (1) providing first and second tubular members having first and second threads in step 105; (2) cleaning the first and second threads in step 110; (3) applying a primer to the threaded portions of the tubular members in step 115; (4) applying a sealing compound to the first and second threads in step 120; (5) coupling the first and second threads of the first and second tubular members in step 125; (6) curing the sealing compound in step 130; (7) positioning the coupled first and second tubular members within a pre-existing structure in step 135; and (8) radially expanding the coupled first and second tubular members into contact with the preexisting structure in step 140.
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> As illustrated in Fig. 2, in a preferred embodiment, in step 105, a first tubular member 205 including first threads 210 and a second tubular member 215 including second threads 220 are provided. The first and second tubular members, 205 and 215, may be any number of

conventional commercially available tubular members. In a preferred embodiment, the first tubular member 205 further includes a recess 225 containing a sealing member 230 and a retaining ring 235. In a preferred embodiment, the first and second tubular members, 205 and 215, are further provided substantially as described in one or more of the following co-pending applications:

Provisional Patent Application Number	Attorney Docket No.	Filing Date
60/108,558	25791.9	11-16-1998
60/111,293	25791.3	12-7-1998
60/119,611	25791.8	2-11-1999
60/121,702	25791.7	2-25-1999
60/121,841	25791.12	2-26-1999
60/121,907	25791.16	2-26-1999
60/124,042	25791.11	3-11-1999
60/131,106	25791.23	4-26-1999
60/137,998	25791.17	6-7-1999
60/143,039	25791.26	7-9-1999
60/146,203	25791.25	7-29-1999
	25791.29	9-16-1999
	25791.34	10-11-1999
	25791.36	10-11-1999

Applicants incorporate by reference the disclosures of these applications.

In a preferred embodiment, in step 110, the first and second threads, 210 and 220, are cleaned. The first and second threads, 210 and 220, may be cleaned using any number of conventional cleaning methods.

In a preferred embodiment, the first and second threads, 210 and 220, are cleaned to substantially remove all foreign material and surface corrosion.

In a preferred embodiment, in step 115, the first and/or second threads, 210 and 220, are coated with a primer material to improve the adhesion of the sealing compound to the first and second threads, 210 and 220. In a preferred embodiment, the coating of primer material includes transition metal such as, for example, zinc, manganese, copper, iron, and/or cobalt.

In a preferred embodiment, in step 120, the first and/or second threads, 210 and 220, are coated with a sealing compound. The sealing compound may be any number of conventional commercially available sealing compounds such as, for example, epoxies, thermosetting sealing compounds, curable sealing compounds, or sealing compounds having polymerizable materials. In a preferred embodiment, the sealing compound maintains its material properties for temperatures ranging from about 0 to 450° F, is resistant to common wellbore fluidic materials such as water, drilling mud, oil, natural gas, acids, CO_2, and H_2S, and can be stretched up to about 30-40% after curing. In a preferred embodiment, the sealing compound is Jet-Lock III High Friction Thread Compound available from Jet-Lube, Inc. in order to optimally provide a fluidic seal between the first and second threads, 210 and 220.

In an alternative preferred embodiment, in steps 115 and 120, the sealing compound is applied to one of the threads, 210 or 220, and a primer material with or without a curing catalyst is applied to the other one of the threads, 210 and 220. In this manner, the adhesion of the sealing compound to the threads, 210 and 220, is optimized.

In a preferred embodiment, in steps 125 and 130, the first and second threads, 210 and 220, of the first and second tubular members, 205 and 215, are then coupled, and the sealing compound is cured.

As illustrated in Fig. 5, in steps 135 and 140, the tubular members 205 and 215 are then positioned within a preexisting structure 505, and radially expanded into contact with the interior walls of the preexisting

structure 505 using an expansion cone 510. The tubular members 205 and 215 may be radially expanded into intimate contact with the interior walls of the preexisting structure 505, for example, by: (1) pushing or pulling the expansion cone 510 through the interior of the tubular members 205 and 215; and/or (2) pressurizing the region within the tubular members 205 and 215 behind the expansion cone 510 with a fluid. In a preferred embodiment, one or more sealing members 515 are further provided on the outer surface of the tubular members 205 and 215, in order to optimally seal the interface between the radially expanded tubular members 205 and 215 and the interior walls of the preexisting structure 505.

In a preferred embodiment, the radial expansion of the tubular members 205 and 215 into contact with the interior walls of the preexisting structure 505 is performed substantially as disclosed in one or more of the following co-pending patent applications:

U.S. Provisional Patent Application Number	Attorney Docket No.	Filing Date
60/108,558	25791.9	11-16-1998
60/111,293	25791.3	12-7-1998
60/119,611	25791.8	2-11-1999
60/121,702	25791.7	2-25-1999
60/121,841	25791.12	2-26-1999
60/121,907	25791.16	2-26-1999
60/124,042	25791.11	3-11-1999
60/131,106	25791.23	4-26-1999

U.S. Provisional Patent Application Number	Attorney Docket No.	Filing Date
60/137,998	25791.17	6-7-1999
60/143,039	25791.26	7-9-1999
60/146,203	25791.25	7-29-1999
	25791.29	9-16-1999
	25791.34	10-11-1999
	25791.36	10-11-1999

The disclosures of each of the above co-pending patent applications are incorporated by reference.

In an alternative preferred embodiment, the sealing compound is a 2-step sealing compound that includes an initial cure that is completed after the first and second threads, 210 and 220, of the first and second tubular members, 205 and 215, are coupled, and a final cure that is completed after the first and second tubular members, 205 and 215, are radially expanded. In this manner, an optimal fluidic seal is formed between the first and second threads, 210 and 220. In a preferred embodiment, the final cure of the sealing compound is delayed by applying an inhibitor to the sealing compound before or after its application to the first and second threads, 210 and 220.

An expandable tubular assembly has been described that includes a pair of tubular members having threaded portions coupled to one another and a quantity of a sealant within the threaded portions of the tubular members. In a preferred embodiment, the sealant is selected from the group consisting of epoxies, thermosetting sealing compounds, curable sealing compounds, and sealing compounds having polymerizable materials. In a preferred embodiment, the sealant includes an initial cure

cycle and a final cure cycle. In a preferred embodiment, the sealant can be stretched up to about 30 to 40 percent without failure. In a preferred embodiment, the sealant is resistant to conventional wellbore fluidic materials. In a preferred embodiment, the material properties of the sealant are substantially stable for temperatures ranging from about 0 to 450 °F. In a preferred embodiment, the threaded portions of the tubular members include a primer for improving the adhesion of the sealant to the threaded portions.

A method of coupling an expandable tubular assembly including a plurality of tubular members having threaded portions to a preexisting structure has also been described that includes coating the threaded portions of the tubular members with a sealant, coupling the threaded portions of the tubular members, curing the sealant, positioning the tubular members within a preexisting structure and radially expanding the tubular members into contact with the preexisting structure. In a preferred embodiment, the sealant is selected from the group consisting of epoxies, thermosetting sealing compounds, curable sealing compounds, and sealing compounds having polymerizable materials. In a preferred embodiment, the method further includes initially curing the sealant prior to radially expanding the tubular members and finally curing the sealant after radially expanding the tubular members. In a preferred embodiment, the sealant can be stretched up to about 30 to 40 percent after curing without failure. In a preferred embodiment, the sealant is resistant to conventional wellbore fluidic materials. In a preferred embodiment, the material properties of the sealant are substantially stable for temperatures ranging from about 0 to 450 °F. In a preferred embodiment, the method further includes applying a primer to the threaded portions of the tubular members prior to coating the threaded portions of the tubular members with the sealant. In a preferred embodiment, the primer includes a curing catalyst. In a preferred embodiment, the primer is applied to the threaded portion of one of the tubular members and the sealant is applied to the

threaded portion of the other one of the tubular members. In a preferred embodiment, the primer includes a curing catalyst.

An apparatus has been described that includes a preexisting structure and a plurality of tubular members having threaded portions coupled to the preexisting structure by the process of coating the threaded portions of the tubular members with a sealant, coupling the threaded portions of the tubular members, curing the sealant, positioning the tubular members within a preexisting structure, and radially expanding the tubular members into contact with the preexisting structure. In a preferred embodiment, the sealant is selected from the group consisting of epoxies, thermosetting sealing compounds, curable sealing compounds, and sealing compounds having polymerizable materials. In a preferred embodiment, the apparatus further includes initially curing the sealant prior to radially expanding the tubular members and finally curing the sealant after radially expanding the tubular members. In a preferred embodiment, the sealant can be stretched up to about 30 to 40 percent after curing without failure. In a preferred embodiment, the sealant is resistant to conventional wellbore fluidic materials. In a preferred embodiment, the material properties of the sealant are substantially stable for temperatures ranging from about 0 to 450 °F. In a preferred embodiment, the apparatus further includes applying a primer to the threaded portions of the tubular members prior to coating the threaded portions of the tubular members with the sealant. In a preferred embodiment, the primer includes a curing catalyst. In a preferred embodiment, the primer is applied to the threaded portion of one of the tubular members and the sealant is applied to the threaded portion of the other one of the tubular members. In a preferred embodiment, the primer includes a curing catalyst.

In fact, the original application specified the ***exact*** sealing compound to use in practicing a best mode of the invention (see Original Application at page 7, lines 20-23):

In a preferred embodiment, **the sealing compound is Jet-Lock III High Friction Thread Compound available from Jet-Lube, Inc**. in order to optimally provide a fluidic seal between the first and second threads, 210 and 220.

Thus, the present application clearly disclosed the best mode of practicing the invention.

The Rejection of Claims 5 and 37 Under 35 U.S.C. § 112, ¶2:

Claims 5 and 37 were rejected under 35 U.S.C. § 112, ¶2. Applicants respectfully traverse.

The Examiner stated that the use of the term "conventional" in claims 5 and 37 renders the claims indefinite given that what is "conventional" may change.

The relevant inquiry is what is conventional at the time of the filing date of the patent application. Obviously, the Applicant cannot claim that which does not exist at the time of filing. Thus, in claims 5 and 74, the term "conventional" refers to things known to be conventional at the time of the filing of the present patent application.

The Rejection of Claims 1, 5, 28-30, 45 and 46 under 35 U.S.C. § 102 in view of Evans:

Claims 1, 5, 28-30, 45, and 46 were rejected under 35 U.S.C. § 102(a) as being anticipated by Evans (US 6,409,175). The Applicant respectfully traverses.

Evans states the following in column 1, lines 50-55:

"Threaded connections for oil field use mainly rely on three types of seals: either metal-to-metal shouldering seals or seals formed by engaged threads with high thread interference using thread compound to effect a seal in the void areas, or deformable seal rings entrapped in the thread area. All three types of seals of the se types are disabled by the radial expansion caused by the pig. In each case, following the expansion of the pin and box, the pin and box members radially separate, causing the seal

to fail."

Claim 1, as amended, recites: "An expandable tubular assembly, comprising:

a pair of radially expanded tubular members having radially expanded threaded portions coupled to one another; and

a quantity of a sealant within the radially expanded threaded portions of the radially expanded tubular members;

wherein the sealant adheres to the radially expanded threaded portions of the radially expanded tubular members; and

wherein the threaded portions of the tubular members include a primer for improving the adhesion of the sealant to the threaded portions."

Evans discloses that "following the expansion of the pin and box, the pin and box members radially separate, causing the seal to fail." By contrast, claim 1 recites exactly the opposite. Furthermore, claim 1 now recites that the threaded portions of the tubular members include a primer for improving the adhesion of the sealant to the threaded portions. Thus, Evans does not disclose the invention of claim 1. Furthermore, for at least the same reasons, Evans also does not disclose the invention of claims 5, 28, 29, and 30, which depend from claim 1.

Claim 45, as amended, recites: "An expandable tubular assembly, comprising:

a pair of expandable tubular members having threaded portions coupled to one another; and

a quantity of a sealant within the threaded portions of the tubular members;

wherein the coupled threaded portions of the expandable tubular members are located on portions of the expandable tubular members that are deformed following radial expansion and plastic deformation of the expandable tubular members;

wherein the sealant adheres to the threaded portions of the radially expanded and plastically deformed tubular members before, during, and after the radial expansion and plastic deformation."

Evans discloses that "following the expansion of the pin and box, the pin and box members radially separate, causing the seal to fail." By contrast, claim 45 recites exactly the opposite. Thus, Evans does not disclose the invention of claim 45.

Claim 46, as amended, recites: "An expandable tubular assembly, comprising:

a pair of expandable tubular members having threaded portions coupled to one another; and

means for providing a fluid tight seal between the coupled threaded portions of the pair of expandable tubular members following the radial expansion and plastic deformation of the coupled threaded portions of the expandable tubular members;

wherein the means for providing a fluid tight seal that adheres to the threaded portions of the radially expanded and plastically deformed tubular members before, during, and after the radial expansion and plastic deformation."

Evans discloses that "following the expansion of the pin and box, the pin and box members radially separate, causing the seal to fail." By contrast, claim 46 recites exactly the opposite. Thus, Evans does not disclose the invention of claim 46.

The Rejection of Claims 1-6, 28-30, 45, and 46 under 35 U.S.C. § 102 in view of Vincent:

Claims 1-6, 28-30, 45, 46, and 70 were rejected under 35 U.S.C. § 102(b) as being anticipated by Vincent (US 5,431,831). The Applicant respectfully traverses.

Vincent discloses a compressible lubricant and sealing compound C that is placed in the threads of a threaded connection and allows the threaded connection to maintain its sealing integrity under cycling of tension, compression, bending, and thermal elastic expansion and contraction. Vincent does not disclose or suggest that the compound C allows the threaded connection to maintain its sealing integrity during and after a plastic deformation of the tubular members, or that the compound C is applied in combination with the use of a primer.

Claim 1, as amended, recites: "An expandable tubular assembly, comprising:

a pair of radially expanded tubular members having radially expanded threaded portions coupled to one another; and

a quantity of a sealant within the radially expanded threaded portions of the radially expanded tubular members;

wherein the sealant adheres to the radially expanded threaded portions of the radially

expanded tubular members; and

wherein the threaded portions of the tubular members include a primer for improving the adhesion of the sealant to the threaded portions."

Vincent does not disclose or suggest that the compound C is applied in combination with the use of a primer. Thus, Vincent does not disclose the invention of claim 1. Furthermore, for at least the same reasons, Evans also does not disclose the invention of claims 2-6, and 28-30, which depend from claim 1.

Claim 45, as amended, recites: "An expandable tubular assembly, comprising:

a pair of expandable tubular members having threaded portions coupled to one another; and

a quantity of a sealant within the threaded portions of the tubular members;

wherein the coupled threaded portions of the expandable tubular members are located on portions of the expandable tubular members that are deformed following radial expansion and plastic deformation of the expandable tubular members;

wherein the sealant adheres to the threaded portions of the radially expanded and plastically deformed tubular members before, during, and after the radial expansion and plastic deformation."

Vincent does not disclose or suggest that the compound C allows the threaded connection to maintain its sealing integrity during and after a plastic deformation of the tubular members. By contrast, claim 45 recites exactly the opposite. Thus, Vincent does not disclose the invention of claim 45.

Claim 46, as amended, recites: "An expandable tubular assembly, comprising:

a pair of expandable tubular members having threaded portions coupled to one another; and

means for providing a fluid tight seal between the coupled threaded portions of the pair of expandable tubular members following the radial expansion and plastic deformation of the coupled threaded portions of the expandable tubular members;

wherein the means for providing a fluid tight seal that adheres to the threaded portions of the radially expanded and plastically deformed tubular members before, during, and after the radial expansion and plastic

deformation."

Vincent does not disclose or suggest that the compound C allows the threaded connection to maintain its sealing integrity during and after a plastic deformation of the tubular members. By contrast, claim 46 recites exactly the opposite. Thus, Vincent does not disclose the invention of claim 46.

The Rejection of Claims 2, 3, 4, 6, and 72 under 35 U.S.C. § 103:

Claims 2, 3, 4, 6 and 72 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Evans (US 6,409,175) in view of Jet-Lok product catalog and the applicant's disclosure of Jet-Lok on page 7 of the original application. Applicants respectfully traverse.

As an initial matter, the content of the applicant's original application cannot be prior art as a matter of law. Thus, for at least this reason, the rejection of claims 2, 3, 4, 6 and 7 should be withdrawn. Thus, to the extent that the examiner maintains the present rejection, the applicant respectfully requests that the examiner either: (1) demonstrate that, at the time of the invention, the disclosure of the present application relied upon by the examiner in the present rejection is capable of instant and unquestionable demonstration; or (2) provide a declaration pursuant to 37 C.F.R. § 1.104(d)(2) that details the personal knowledge of the Examiner as to the disclosure of the present application relied upon by the examiner in the present rejection.

Furthermore, Evans does not include any disclosure or suggestion of the use of Jet-Lok sealant within the threads of coupled tubulars that are then radially expanded and plastically deformed. In fact, Evans explicitly **teaches against the use of a sealant on expandable threads**, "Threaded connections for oil field use mainly rely on three types of seals: either metal-to-metal shouldering seals or seals formed by engaged threads with high thread interference using thread compound to effect a seal in the void areas, or deformable seal rings entrapped in the thread area. All three seals of these types are disabled by the radial expansion caused by the pig. In each case, following the expansion of the pin and box, the pin and box members radially separate, causing the seals to fail." (Evans, column 1, lines 50-58).

The Jet-Lok product catalog likewise does not include any disclosure or suggestion of the use of Jet-Lok sealant within the threads of coupled tubulars that are then radially expanded and plastically deformed.

Thus, the combination of Evans and the Jet-Lok product catalog does not disclose or suggest the invention of any of claims 2, 3, 4, 6 and 7. Therefore, claims 2, 3, 4, 6 and 7 are in condition for allowance.

Furthermore, there is no motivation to combine Evans with the Jet-Lok product catalog. In particular, as discussed above, Evans explicitly **teaches against the use of a sealant on the threads**, "Threaded connections for oil field use mainly rely on three types of seals: either metal-to-metal shouldering seals or seals formed by engaged threads with high thread interference using thread compound to effect a seal in the void areas, or deformable seal rings entrapped in the thread area. All three seals of these types are disabled by the radial expansion caused by the pig. In each case, following the expansion of the pin and box, the pin and box members radially separate, causing the seals to fail." (Evans, column 1, lines 50-58). Thus, there is no motivation to combine Evans with the Jet-Lok product catalog.

The only motivation to combine Evans with the Jet-Lok product catalog comes from the disclosure of the present application – which is not prior art.

Applicants respectfully request that the Examiner withdraw the rejection of Claims 2, 3, 4, 6 and 7.

Unless stated otherwise, none of the amendments to the claims were made for reasons substantially related to the statutory requirements for patentability.

Furthermore, unless stated otherwise, the amendment to the claims were made to simply make express what had been implicit in the claims as originally worded and therefore is not a narrowing amendment that would create any type of prosecution history estoppel.

Furthermore, to the extent that the present or any prior amendment, present formerly dependent claims in independent form, such amendments do not in any manner change the scope of the amended claim of the scope of equivalents thereof.

Conclusion

In view of the foregoing amendments and remarks, it is respectfully submitted that the pending claims are drawn to novel subject matter, patentably distinguishable over the prior art of record. The Examiner is therefore respectfully requested to reconsider and allow claims presented for reconsideration herein. To the extent that the present amendment results in additional fees, the Applicant authorizes the Commissioner to charge deposit account no. 08-1394.

Should the Examiner deem that any further amendment is desirable to place this application in condition for allowance, the Examiner is invited to telephone the undersigned at the below listed telephone number.

Respectfully submitted,

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